

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Patent No	:	7,683,123 B2
App. No	:	10/596,590
Inventor	:	Onoue et al.
Issued Date	:	March 23, 2010
Title	:	AQUEOUS COATING COMPOSITION

**REQUEST FOR RECONSIDERATION CERTIFICATE OF CORRECTION****Decisions & Certificates of Correction Branch**

P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This request for reconsideration is in response to your Decision on a Certificate of Correction with the above identified patent.

In support of the request to replace a recitation "compounds" in Column 30/line 9, in Claim 10, with "compound selected from the group consisting of", please find enclosed copy of Applicant's amendments showing that Claim 26 (now Claim 10) was added as a new claim by the amendment filed on January 21, 2009. The claim recited "compound selected from the group consisting of". As the identifier of the claim indicates, the claim had never been amended and discussed in the next two amendments, though the recitation was erroneously altered.

Accordingly, this is a mistake of a clerical or typographical nature and occurred in good faith. Please reconsider.

**Application No.:** 10/596,590

**Filing Date:** Error! No text of specified style in document.

Please charge our Deposit Account No. 11-1410 for any fee that may be incurred with this request.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: August 16, 2010

By:



Daniel E. Altman  
Registration No. 34,115  
Attorney of Record  
Customer No. 20995  
(949) 760-0404

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Sei-ichi ONUUE, et al.  
App. No : 10/596,590  
Filed : June 16, 2006  
For : AQUEOUS COATING  
COMPOSITION  
Examiner : Karua P. Redddy  
Art Unit : 1796  
Conf No. : 8151

AMENDMENT ACCOMPANYING RCE

**Mail Stop RCE**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action mailed October 21, 2008, please reconsider the present application in light of the following remarks.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 4 of this paper.

Application No.: 10/596,590  
Filing Date: June 16, 2006

#### AMENDMENTS TO THE CLAIMS

Please amend Claims as follows. Insertions are shown underlined while deletions are ~~struck through~~.

1 (previously presented): An aqueous coating composition comprising, as essential components, a synthetic resin emulsion (A) having a pH value of 4.0 to 10.0 and a neutral silica sol (B) having a particle diameter of 1 to 200 nm and a pH value of 5.0 to 7.8, wherein the neutral silica sol (B) component is contained in an amount of 0.1 to 50 parts by weight in terms of solid content relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A), and the electrical conductivity of the neutral silica sol (B) is 1 mS/cm or less wherein the neutral silica sol (B) includes particles made of a compound which is formed by hydrolysis condensation of silicate, is rigid, and has silanol groups (Si-OH) on the surfaces of the particles and the neutral silica sol has been subjected to hydrophobation treatment.

2 (original): The aqueous coating composition according to claim 1, which further comprises aggregate (E) having a particle diameter of 0.05 to 5 mm in an amount of 100 to 4000 parts by weight relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A).

3 (original): The aqueous coating composition according to claim 1, which further comprises a coloring pigment (C), an extender pigment (D), and aggregate (E) having a particle diameter of 0.05 to 5 mm such that 1 to 300 parts by weight of the coloring pigment (C), 10 to 1000 parts by weight of the extender pigment (D) and 10 to 2000 parts by weight of the aggregate (E) are contained per 100 parts by weight of the solid content of the synthetic resin emulsion (A).

4 (original): The aqueous coating composition according to claim 1, which further comprises at least one kind of colored coating (F) dispersed in a granular state.

5 -19(canceled):

20 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) does not include colloidal silica.

21 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) contains two or more kinds of neutral silica sol (B) different in average primary particle diameter.

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Filing Date: June 16, 2006

22 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) has a particle diameter of 10 to 50 nm.

23 (previously presented): The aqueous coating composition according to claim 1, wherein the hydrophobation treatment is carried out by complexing a compound having at least one functional group selected from the group consisting of Alkoxy silane compound, Alcohols, Glycols, Glycol ethers, and Fluorine alcohols with the neutral silica sol (B).

24 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) is complexed with a polyoxyalkylene group-containing compound.

25 (new): The aqueous coating composition according to claim 1, wherein the silicate from which the neutral silica sol (B) component is produced is selected from the group consisting of tetramethoxy silane, tetraethoxy silane, tetra-n-propoxy silane, tetraisopropoxy silane, tetra-n-butoxy silane, tetraisobutoxy silane, tetra-sec-butoxy silane, tetra-t-butoxy silane, tetraphenoxy silane or condensates thereof.

26 (new): The aqueous coating composition according to claim 25, wherein the silicate from which the neutral silica sol (B) component is produced further comprises an alkoxy silane compound selected from the group consisting of dimethoxydiethoxy silane, methyltrimethoxy silane, methyltriethoxy silane, ethyltrimethoxy silane, ethyltriethoxy silane, dimethyldimethoxy silane, and diethyldimethoxy silane.

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Filing Date: June 16, 2006

#### REMARKS

Claims 25 and 26 have been added. Support for the new claims can be seen in the specification (page 13, line 27 – page 14, line 9), for example. Thus, no new matter has been added. Applicants respectfully request entry of the amendments and reconsideration of the application in view of the amendments and following remarks.

#### Claim Rejections – 35 USC §103

Claims 1, 4, and 20-22 have been rejected under 35 USC §103 as being unpatentable over Storrow et al (US 3,069, 375) in view of Swarup et al ((US 5,506, 325). In the previous amendment, Applicants presented a clear difference between neutral silica sol and colloidal silica and submitted a evaluation result of the bleed-out resistance along with a Declaration under 37 C.F.R. § 1.132. However, the Examiner disregards the data, since Storrow et al use colloidal silica with pH of 8.4, while Comparative Example in the evaluation uses colloidal silica with pH of 9.5, which is not the closest prior art of Storrow et al.

Therefore, a new evaluation result is submitted herewith in a Second Declaration under 37 C.F.R. § 1.132. The pHs of the colloidal silica used in the new experiments were 4.5, 7.0, and 8.0, and all Comparative Examples indicates poor results for pollution resistance to rain streaking and efflorescence resistance. Thus, a composition with colloidal silica shows the poor characteristics in wide range of the pH. Thus, the use of the claimed neutral silica with pH of 5 to 7.8 and electrical conductivity of 1.0 mS/cm or less exhibits unexpectedly superior results over the prior art.

As described above, the result achieved by the present claimed invention are unexpected over those achieved by the prior art. Accordingly, Applicants respectfully request withdrawal of the rejection.

#### Claim Rejections – 35 USC §103

Claim 2 has been rejected under 35 USC. §103 as being unpatentable over Storrow et al in view of Swarup et al and further in view of Kano.

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Filing Date: June 16, 2006

Claim 2 depends from Claim 1. And as discussed above, the Claim 1 includes a novel feature, neutral silica sol, which creates unexpected results. Also, Kano does not disclose the neutral silica sol recited in claim 1. Thus, even if Storrow and Kano combined, the combination can not lead to claim 1. The Claim 2 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 3 has been rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al (US 3,069,375) in view of Kano (US 5,891,948)and Gagliardi et al.(US 5,961,674).

Claim 3 depends from Claim 1, and as discussed above, the Claim 1 includes a novel feature, neutral silica gel, which creates unexpected results. Also, Gagliardi et al. does not disclose the use of the neutral silica sol recited in Claim 1. Thus, even if Storrow, Kano and Gagliardi et al. combined, the combination can not lead to claim 1. The Claim 3 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 1 and 20-24 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Storrow et al in view of Inagaki et al (US 4,427, 823)

Claims 20-24 depend from Claim 1, and as discussed above, the Claim 1 includes novel feature which create unexpected results. Also, Inagakiet al. does not disclose the use of the neutral silica sol recited in Claim 1. Thus, even if Storrow, and Inagaki et al. combined, the combination can not lead to claim 1. The Claim 1 and the dependent claims can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

Rejection Under 35 USC § 103

Claims 1, 4 and 20-22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Weinberger et al (US 6,008,291) and Swarup et al

Claims 4 and 20-22 depend from Claim 1, and as discussed above, the Claim 1 includes novel feature, neutral silica sol, which creates unexpected results. Also, Weinberger et al does

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**Filing Date: June 16, 2006**

not disclose the use of the neutral silica sol recited in Claim 1. Thus, even if Weinberger et al and Swarup et al. combined, the combination can not lead to claim 1. The Claim 1 and the dependent claims can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

**Claim Rejections – 35 USC §103**

Claim 2 has been rejected under 35 USC. §103 as being unpatentable over Weinberger and Swarup et al and further in view of Kano.

Claim 2 depends from Claim 1. And as discussed above, the Claim 1 includes novel feature, neutral silica sol, which creates unexpected results. The cited references do not disclose the neutral silica sol recited in claim 1. Thus, even if the references are combined, the combination can not lead to claim 1. The Claim 2 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

**Claim Rejections – 35 USC §103**

Claim 3 has been rejected under 35 USC. §103 as being unpatentable over Weinberger and Swarup et al and further in view of Kano and Gagliardi et al..

Claim 3 depends from Claim 1. And as discussed above, the Claim 1 includes novel feature, neutral silica sol, which creates unexpected results. The cited references do not disclose the neutral silica sol recited in claim 1. Thus, even if the references are combined, the combination can not lead to claim 1. The Claim 3 can not be rejected on this ground. Applicant respectfully requests withdrawal of this rejection.

**CONCLUSION**

In the light of the applicant's amendments to the claims and the following Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

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Filing Date: June 16, 2006

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: January 21, 2009

By:



Daniel E. Altman  
Registration No. 34,115  
Attorney of Record  
Customer No. 20995  
(949) 760-0404

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Sei-ichi ONUUE, et al.  
App. No : 10/596,590  
Filed : June 16, 2006  
For : AQUEOUS COATING  
COMPOSITION  
Examiner : Karuna P. Reddy  
Art Unit : 1796  
Conf No. : 8151

AMENDMENT

**Mail Stop Amendment**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In prior to the Office Action mailed February 12, 2009, please reconsider the present application in light of the following amendments and comments.

**Amendments to the Claims** are reflected in the listing of claims which begins on page 2 of this paper.

**Remarks/Arguments** begin on page 4 of this paper.

**Application No.: 10/596,590**  
**Filing Date: June 16, 2006**

**AMENDMENTS TO THE CLAIMS**

**Please amend Claim 1 as follows. Insertions are shown underlined while deletions are struck through**

1 (previously presented): An aqueous coating composition comprising, as essential components, a synthetic resin emulsion (A) having a pH value of 4.0 to 10.0 and a neutral silica sol (B) having a particle diameter of 1 to 200 nm and a pH value of 5.0 to 7.8, wherein the neutral silica sol (B) component is contained in an amount of 0.1 to 50 parts by weight in terms of solid content relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A), and the electrical conductivity of the neutral silica sol (B) is 1 mS/cm or less wherein the neutral silica sol (B) includes particles made of a compound which is formed by hydrolysis condensation of silicate, is rigid, and has silanol groups (Si-OH) on the surfaces of the particles and the neutral silica sol has been subjected to hydrophobation treatment.

2 (original): The aqueous coating composition according to claim 1, which further comprises aggregate (E) having a particle diameter of 0.05 to 5 mm in an amount of 100 to 4000 parts by weight relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A).

3 (original): The aqueous coating composition according to claim 1, which further comprises a coloring pigment (C), an extender pigment (D), and aggregate (E) having a particle diameter of 0.05 to 5 mm such that 1 to 300 parts by weight of the coloring pigment (C), 10 to 1000 parts by weight of the extender pigment (D) and 10 to 2000 parts by weight of the aggregate (E) are contained per 100 parts by weight of the solid content of the synthetic resin emulsion (A).

4 (original): The aqueous coating composition according to claim 1, which further comprises at least one kind of colored coating (F) dispersed in a granular state.

5 -20 (canceled)

21 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) contains two or more kinds of neutral silica sol (B) different in average primary particle diameter.

22 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) has a particle diameter of 10 to 50 nm.

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**Filing Date: June 16, 2006**

23 (previously presented): The aqueous coating composition according to claim 1, wherein the hydrophobation treatment is carried out by complexing a compound having at least one functional group selected from the group consisting of Alkoxysilane compound, Alcohols, Glycols, Glycol ethers, and Fluorine alcohols with the neutral silica sol (B).

24 (currently amended): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) is complexed with a polyoxyalkylene group-containing compound.

25 (previously presented): The aqueous coating composition according to claim 1, wherein the silicate from which the neutral silica sol (B) component is produced is selected from the group consisting of tetramethoxy silane, tetraethoxy silane, tetra-n-propoxy silane, tetraisopropoxy silane, tetra-n-butoxy silane, tetraisobutoxy silane, tetra-sec-butoxy silane, tetra-t-butoxy silane, tetraphenoxy silane or condensates thereof.

26 (previously presented): The aqueous coating composition according to claim 25, wherein the silicate from which the neutral silica sol (B) component is produced further comprises an alkoxy silane compounds dimethoxydiethoxy silane, methyltrimethoxy silane, methyltriethoxy silane, ethyltrimethoxy silane, ethyltriethoxy silane, dimethyldimethoxy silane, and diethyldimethoxy silane.

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**Filing Date: June 16, 2006**

**REMARKS**

Claim 24 has been amended to correct clerical error. Thus, no new matter has been added. Applicants respectfully request entry of the amendments and reconsideration of the present application in view of the amendments and the remakes set forth below.

**Claim Objections**

Claim 24 has been objected to because of the informalities. A typographic error, the second period after "compound", has been removed. Applicants respectfully request withdrawal of the objection.

**Claim Rejections – 35 U.S.C. § 103**

Claims 1, 4, and 21-22 have been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Swarup. Applicants respectfully submit that rejected claims are allowable over the recited references as discussed below.

Claim 1 recites, among the other things, "a neutral silica sol...having a pH value of 5.0 to 7.8." In rejecting the claim, the Examiner asserts that the instant claimed range of 5 to 7.8 and Storrow's disclosed range of 8 to 10 are so close to each other so that one skilled in the art would have expected them to have the same property. However, Comparative Examples 1-2 in Table 1 of the specification and Comparative Examples 1-4 in the second declaration, for example, indicate Storrow's recited range (pH 8~10) is **inoperative with the present claimed invention**. Moreover, a Third Declaration is attached hereto, which demonstrated effect of the claimed pH range. As can be seen, both the efflorescence resistance test and the anti-staining properties of the material prepared at pH 7.8, within the presently claimed range, are unexpectedly superior to the results on the material at pH 8.0, within the pH range of Storrow. These unexpected results would effectively rebut any *prima facie* showing of obviousness, even if present. Consequently, no *prima facie* case of obviousness has been established with respect to Claim 1.

The rest of the rejected claims depend from Claim 1 and further defines additional technical features of the present invention. In view of the patentability of Claim 1, and further view of the additional technical features, Applicants respectfully submit that the rest of the rejected Claims 4, 21 and 22 are patentable over the cited references.

**Application No.: 10/596,590**  
**Filing Date: June 16, 2006**

**Claim Rejections – 35 U.S.C. § 103**

Claim 2 has been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Swarup and further in view of Kano,

Claim 3 has been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Swarup and further in view of Kano and Gagliardi, and

Claims 1, and 21-22 have been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Inagaki.

Since the rejected claims depend from Claim 1 and the above cited references are silent about pH range of neutral silica sol, these are patentable with the same reason presented for Claim 1. Applicants respectfully request withdrawal of the rejection.

**Claim Rejections – 35 U.S.C. § 103**

Claims 1, 4, 20-22, 25, and 26 have been rejected under 35 U.S.C. § 103 as being unpatentable over Weinberg et al in view of Swarup. Applicants respectfully submit that rejected claims are allowable over the recited references as discussed below.

Claim 1 recites, among the other things, “**a neutral** silica sol...having a pH value of 5.0 to 7.8... **electrical conductivity**...is 1 mS/cm or less,” while Weinberg et al. recite “...a pH from about 7.0 to about 14.0... **an alkali**...silica dispersion.” While it is true that **mere optimization** range is not generally supportive of patentability, evidence indicating that the claimed ranges are critical can support patentability. See MPEP 2144.05(II). In the present case, the evidence show that a use of the neutral silica sol whose pH range is 5 to 7.8 remarkably improve anti-staining property and water resistance, and the pH range is very critical for these property as shown in the Third Declaration. The data indicate that when the pH of 7.8 which is within recited range are applied to the materials, far superior results in efflorescence and water staining resistance were obtained, compared when the pH value is even slightly off, namely 4.5 and 8.0. These **unexpected results rebut any prima facie case of obviousness** based on the cited prior art. See MPEP 2144.05 (III) Applicants respectfully request withdrawal of the rejection.

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**Filing Date: June 16, 2006**

Further, Claim 1 recites a use of “**a neutral silica sol...**” and “**electrical conductivity...is 1 mS/cm or less,**” while Weinberg recites “an alkali...silica dispersion” and is silent about the electrical conductivity. Therefore, one having ordinary skill in the art would not have a **reasonable expectation of achieving successful results** applying Weinberg’s teaching in connection with materials having such radically different attribute. **Absent such a reasonable expectation of success, no prima facie showing of obviousness can be set forth.**

The rest of the rejected claims depend from Claim 1 and further defines additional technical features of the present invention. In view of the patentability of Claim 1, and further view of the additional technical features, Applicants respectfully submit that the rest of the rejected Claims 4, 20-22, 25, and 26 are patentable over the cited references.

### **CONCLUSION**

In the light of the applicant’s amendments to the claims and the foregoing Remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns which might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number appearing below.

#### **No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

**Application No.: 10/596,590**  
**Filing Date: June 16, 2006**

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: May 12, 2009

By:

  
Daniel E. Altman  
Registration No. 34,115  
Attorney of Record  
Customer No. 20995  
(949) 760-0404

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Sei-ichi ONUUE et al.  
App. No : 10/596,590  
Filed : June 16, 2006  
For : AQUEOUS COATING COMPOSITION  
Examiner : Karuna P. Reddy  
Art Unit : 1796  
Conf No. : 8151

**RESPONSE ACCOMPANYING RCE**

**Mail Stop Amendment**  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In response to the Office Action, dated July 15, 2009, Applicant respectfully submits the following amendments and remarks in connection with the above-captioned application.

**Listing of claims** begins on page 2 of this paper. This listing is provided solely for the Examiner's convenience as no amendments have been made.

**Summary of Interview** begins on page 4 of this paper.

**Remarks/Arguments** begin on page 5 of this paper.

**Application No.: 10/596,590**  
**Filing Date: June 16, 2006**

### **LISTING OF CLAIMS**

1 (previously presented): An aqueous coating composition comprising, as essential components, a synthetic resin emulsion (A) having a pH value of 4.0 to 10.0 and a neutral silica sol (B) having a particle diameter of 1 to 200 nm and a pH value of 5.0 to 7.8, wherein the neutral silica sol (B) component is contained in an amount of 0.1 to 50 parts by weight in terms of solid content relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A), and the electrical conductivity of the neutral silica sol (B) is 1 mS/cm or less wherein the neutral silica sol (B) includes particles made of a compound which is formed by hydrolysis condensation of silicate, is rigid, and has silanol groups (Si-OH) on the surfaces of the particles and the neutral silica sol has been subjected to hydrophobation treatment.

2 (original): The aqueous coating composition according to claim 1, which further comprises aggregate (E) having a particle diameter of 0.05 to 5 mm in an amount of 100 to 4000 parts by weight relative to 100 parts by weight of the solid content of the synthetic resin emulsion (A).

3 (original): The aqueous coating composition according to claim 1, which further comprises a coloring pigment (C), an extender pigment (D), and aggregate (E) having a particle diameter of 0.05 to 5 mm such that 1 to 300 parts by weight of the coloring pigment (C), 10 to 1000 parts by weight of the extender pigment (D) and 10 to 2000 parts by weight of the aggregate (E) are contained per 100 parts by weight of the solid content of the synthetic resin emulsion (A).

4 (original): The aqueous coating composition according to claim 1, which further comprises at least one kind of colored coating (F) dispersed in a granular state.

5 -20 (canceled)

21 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) contains two or more kinds of neutral silica sol (B) different in average primary particle diameter.

22 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) has a particle diameter of 10 to 50 nm.

23 (previously presented): The aqueous coating composition according to claim 1, wherein the hydrophobation treatment is carried out by complexing a compound having at least

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one functional group selected from the group consisting of Alkoxy silane compound, Alcohols, Glycols, Glycol ethers, and Fluorine alcohols with the neutral silica sol (B).

24 (previously presented): The aqueous coating composition according to claim 1, wherein the neutral silica sol (B) is complexed with a polyoxyalkylene group-containing compound.

25 (previously presented): The aqueous coating composition according to claim 1, wherein the silicate from which the neutral silica sol (B) component is produced is selected from the group consisting of tetramethoxy silane, tetraethoxy silane, tetra-n-propoxy silane, tetraisopropoxy silane, tetra-n-butoxy silane, tetraisobutoxy silane, tetra-sec-butoxy silane, tetra-t-butoxy silane, tetraphenoxy silane or condensates thereof.

26 (previously presented): The aqueous coating composition according to claim 25, wherein the silicate from which the neutral silica sol (B) component is produced further comprises an alkoxy silane compounds dimethoxydiethoxy silane, methyltrimethoxy silane, methyltriethoxy silane, ethyltrimethoxy silane, ethyltriethoxy silane, dimethyldimethoxy silane, and diethyldimethoxy silane.

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**Filing Date:** June 16, 2006

## SUMMARY OF INTERVIEW

### Attendees, Date and Type of Interview

The interview was conducted on October 6 2009, and attended by Examiner Ms. Karuna P. Reddy and Applicant's representative Dan Altan.

### Exhibits and/or Demonstrations

None

### Identification of Claims Discussed

Claim 1

### Identification of Prior Art Discussed

Weinberger et al. (U.S. Patent No. 6,008,291), Storrow et al. (U.S. Patent No. 3,069,375)

### Proposed Amendments

None

### Principal Arguments and Other Matters

Applicant indicated that they would consider conducting another experiment to provide evidence of unexpected results for a pH range of silica sol and for wt% of the ratio of solids content or scientific arguments, and asked the Examiner the data acquisition point. The Examiner indicated that she would like to see data at pH values of 7.0 and 6.5 and might accept a scientific argument for the ratio of solids content.

### Results of Interview

Applicant agreed to provide the foregoing data and/or scientific arguments.

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#### **REMARKS**

No claim has been amended. The attached 4<sup>th</sup> Declaration sets forth the data resulting from the experiments discussed with the Examiner. Applicant respectfully requests entry of the response and reconsideration of the present application in view of the remarks set forth below.

#### **Discussion of the Claim Rejections Under 35 U.S.C. § 103**

Claims 1, 4, and 21-22 have been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al. (U.S. 3,069,375) in view of Swarup et al (U.S. 5,506,325). Applicant respectfully submits that rejected claims are allowable over the recited references as discussed below.

Claim 1 recites, among the other things, “a neutral silica sol...having a pH value of 5.0 to 7.8”. While Swarup et al is silent about the pH range, Storrow’s disclosed pH range of 8 to 10. In rejecting the claim, the Examiner asserts that the instant claimed range of 5 to 7.8 and Storrow’s disclosed range of 8 to 10 are so close to each other so that one skilled in the art would have expected them to have the same property. However, as indicated in a 4th Declaration attached hereto, newly submitted data along with the previously presented results in TABLE 2 of the specification and the data in the previously submitted declarations prove a criticality of the claimed range. Those data are consolidated in Table-2 of the 4<sup>th</sup> declaration. In particular, the samples indicate lower resistance to rain streaking and efflorescence resistance in Comparative Examples 1-4 (pH 8.0) and 1-6 (pH 4.5), while newly submitted Examples 1-10 to 1-12 and Example 1-13 to 1-15, whose pH value is 6.5 and 7.0 respectively, indicates excellent properties. These results along with the previously presented results from Example 1-1 to 1-7 whose pH is 7.6 and 7.8 prove a criticality of the claimed range. Moreover, as noted in the 4<sup>th</sup> Declaration paragraph 4, “the data from the newly submitted Example 1-8 to 1-9, along with Example 1-3, Examples 1-10 to 1-12, and Examples 1-13 to 1-15 show that different ratios of sold content within the claimed range all provide similar excellent results.” These unexpected results would effectively rebut any *prima facie* showing of obviousness, even if present. Consequently, no *prima facie* case of obviousness has been established with respect to Claim 1.

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**Discussion of Patentability of Dependent Claims**

The rest of the rejected claims depend from base Claim 1, and further define additional technical features of the present invention. In view of the patentability of Claim 1, and in further view of the additional technical features, Applicant respectfully submits that the dependent claims are patentable over the prior art.

**Claim Rejections – 35 U.S.C. § 103**

Claim 2 has been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Swarup and further in view of Kano,

Claim 3 has been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Swarup and further in view of Kano and Gagliardi, and

Claims 1, and 21-22 have been rejected under 35 U.S.C. § 103 as being unpatentable over Storrow et al in view of Inagaki.

Since the rejected claims depend from Claim 1 and the above cited references are silent about pH range of neutral silica sol, these are patentable with the same reason presented for Claim 1. Applicants respectfully request withdrawal of the rejection.

**Claim Rejections – 35 U.S.C. § 103**

Claims 1, 4, 20-22, 25, and 26 have been rejected under 35 U.S.C. § 103 as being unpatentable over Weinberg et al in view of Swarup. Applicants respectfully submit that rejected claims are allowable over the recited references as discussed below.

Claim 1 recites, among the other things, “a neutral silica sol...having a pH value of 5.0 to 7.8” while Weinberg et al. recite “...a pH from about 7.0 to about 14.0...silica dispersion”. While it is true that mere optimization range is not generally supportive of patentability, evidence indicating that the claimed ranges are critical can support patentability. See MPEP 2144.05(II). In the present case, the newly submitted data in the 4<sup>th</sup> declaration along with the previously presented results in TABLE 2 of the specification and the data in the previously submitted declarations prove a criticality of the claimed range. Those data are consolidated in Table-2 of the 4<sup>th</sup> declaration. The evidence show that a use of the neutral silica sol whose pH range is 5 to 7.8 remarkably improves resistance to rain streaking and efflorescence resistance, and the pH

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range is very critical for these properties. The data indicate that when the pH of 7.6 (Example 1-1 to 1-6, 1-8 and 1-9), 7.8 (Example 1-7), 6.5 (Examples 1-10 to 1-12), and 7.0 (Example 1-13 to 1-15), which is within recited range are applied to the materials, far superior results in the resistance to rain streaking and the efflorescence resistance were obtained, compared when the pH value is even slightly off, namely 4.5 (Comparative Example 1-6) and 8.0 (Comparative Example 1-4). These unexpected results rebut any *prima facie* case of obviousness based on the cited prior art. See MPEP 2144.05 (III) Applicant respectfully requests withdrawal of the rejection.

**Discussion of Patentability of Dependent Claims**

The rest of the rejected claims depend from base Claim 1, and further define additional technical features of the present invention. In view of the patentability of Claim 1, and in further view of the additional technical features, Applicant respectfully submits that the dependent claims are patentable over the prior art.

**No Disclaimers or Disavowals**

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

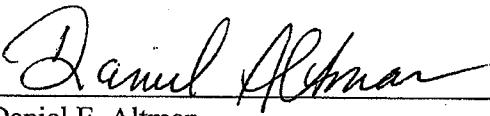
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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

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By:   
Daniel E. Altman  
Registration No. 34,115  
Attorney of Record  
Customer No. 20995  
(949) 760-0404

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